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ABSTRACT

Interviews with 940 Iowa farm operators and their wives were conducted during 1977 to address the question of perceived extension effectiveness (the degree to which the respondent perceived the Cooperative Extension Service as meeting his/her needs). Two models of organizational effectiveness were advanced and suggested as being consistent with efforts to use the perceptions of actual and/or potential client groups as a method for determining effectiveness. Based upon an analysis of the perception, it became clear that extension was not suffering an "image crises" in that there was a rather consistent positive rating given across all items. While several variables such as fatalism, social participation, media usage, and extension contact were related to perceived effectiveness at a statistically significant level, the magnitude of the associations were not large. Other key variables, such as age, education, farm size, and cosmopolitanism were found not to be related to perceived effectiveness. Data tended to demonstrate that the independent variables selected were more consistently related to extension contact than to perceived effectiveness, although even these relationships were not particularly strong. The finding of little or no relationship has important implications for extension in the sense that there does not appear to be a clearly identifiable group that harbors a collective negative perception of extension effectiveness. (Author/NEC)

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FARMERS PERCEPTIONS OF EXTENSION EFFECTIVENESS:

AN IOWA STUDY

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The emergence of the Cooperative Extension Service, a result of the passage of the Smith-Lever Act of 1914, was based upon the recognition that agriculture was undergoing a significant upheaval in its technological, economic and social organization. The earlier land grant legislation placed its emphasis on in house teaching and research and was seen more as a catalyst of change through the creation of knowledge than as a mechanism by which persons could adapt themselves to change. The Cooperative Extension Service, on the other hand, was seen as a primary agent of diffusion and thus an instigator of change, and with its implementation completed the land grant network.

A vast body of social scientific knoweldge has been accumulated in the area of the adoption and diffusion of agricultural innovations and has demonstrated quite conclusively that certain categories of farm operators are both more receptive to and are earlier adopters of innovative farm practices. A representative but abbreviated list of variables found to be related to early adoption are farm size, education, age, social participation and cosmopolitanism (Rogers and Shoemaker, 1975). It might be noted here that many of these same variables are also mentioned in critical reference to Extension's past performance in effectively reaching a broad and representative array of the farming population. Of course, in one way, it is not too surprising that Extension, as a diffusion agent, has demonstrated more success in reaching those segments of the population that are more likely to be receptive to the adoption of innovative practices. Nonetheless, demands that Extension should implement programs in order to mobilize its resources toward reaching a larger and more diverse audience have been pervasive in the recent past and have led to suggestions that an initial phase in this process should involve the implementation of a strategy to assess effectiveness in meeting organizational goals. For example, Bennett states:

Judgments about program effectiveness will be made in one way or

> another. However, there is mounting demand by legislators, policy makers, and administrators that program effectiveness be demonstrated through formal evaluations. These demands reinforce the desire by Extension staff to obtain sound evidence to the extent to which Extension programs are successful... Such evaluations may also suggest reformulation of program objectives, strategy, delivery organization, educational methodology and intended audiences.

This paper will attempt to address the notion of organizational effectiveness as it relates to extension by discussing two organizational models, the "closed" and the "open" model. It will be argued that both models are consistent, to one degree or another, with an approach which emphasizes clients' perceptions as being critical in assessing organizational effectiveness. In what is perceived as an exploratory study, data will be presented to demonstrate a sample of farmers' (as a critical client group) perceptions of extension effectiveness and an analysis of the relationship between these perceptions and a selected set of background and attitudinal variables will be reported.

Organizational Models

Sociological analysis of organizations and organizational effectiveness has been dominated by two models, the closed and the open system perspectives. The closed system perspective views the organization as a rational instrument, one that is designed for specified goal attainment (Thompson, 1967; Ghorpade, 1970; Hall; 1977).

Ghorpade (1970) has attempted to advance the salient elements of the rational or closed system perspective: first, social organizations are viewed as structures designed to achieve specified goals. Second, organizations contain internal subparts designed to maintain organizational effectiveness and efficiency. Such subparts are manipulated in manners to benefit the organization itself. For example, business organizations often attempt to arrange employee work patterns to increase effectiveness and efficiency. Third, organizational failure arises from time to time. From a rationalistic perspective, organiza-

tions attempt to avoid failure through long-range planning procedures and control of internal parts.

A number of authors (Gouldner, 1959; Hall, 1977) contend that Max Weber's writings on bureaucratic structures reflects a closed system view of social organizations. Hall (1977) asserts that Weber's work captures three elements of the closed system perspective. First, Weber conceptualized bureaucracies as having explicit goals. Second, Weber demonstrated that bureaucracies attempt to work toward the realization of goals in rational manners. Third, bureaucratic resource allocation is advanced through a division of labor.

A central feature of the closed model, then, is the emphasis that it places upon organizational goals. The goal approach, according to Yuchtman and Seashore (1967:892), advances two basic assumptions about the chracteristics of social organizations, "(1) that complex organizations have an ultimate goal ('mission,' 'function') toward which they are working and (2) that the ultimate goal can be identified empirically and progress toward it measured." Implicit in these basic assumptions is the notion of organizational effectiveness, which can then be defined as the "degree to which it (an organization) realizes its goals." (Etzioni, 1964:8).

The use of goals as indicators of effectiveness may be especially useful when employed by administrators in public service agencies. Indicators of goal attainment can also be used to demonstrate differential levels of organizational accountability. In discussing the relationship between goal attainment and the demonstration of organizational accountability in extension service work, Mulford, et al. (1977:89) have noted:

> The general public and its official representatives in the executive and legislative branches of government at the federal, state and local levels are demanding more and more that public service organizations be accountable for carry-

> ing out their public mandate in the most efficient and effective manner possible. Therefore, the Cooperative Extension Service must be constantly prepared to demonstrate in measured terms the extent to which the organization is achieving its goals.

The seeming simplicity of this approach is clouded by criticisms related to the operationalization of goals. While researchers can readily obtain prescribed goals from official charters, it is often difficult to ascertain whether or not such stated goals elicit the true objective of the organization. This problem is compounded by the possibility that organizations may have multiple and conflicting goals.

An alternative to viewing organizations as closed systems is the open systems perspective. The open system perspective corresponds to what Gouldner describes as a natural system approach to the analysis of social organizations (Hall, 1977). While the rational or closed system perspective focuses on the planned and structured characteristics of organizations, the open system "focuses upon variables not subject to complete control by the organization and hence not contained within a closed system of logic" (Thompson, 1967:7). From this perspective, while realization of organizational goals is important, it is only one of many needs toward which the organization is oriented (Gouldner, 1959).

In contrast to the closed system perspective, open system proponents insist that social organizations are highly dependent upon various environmental factors (Hall, 1977; Thompson, 1967; Molnar and Rogers, 1976; Dill, 1958; Gouldner, 1959). In attempting to capture the importance of environmental factors, some authors have articulated the centrality of the "task environment," or those parts of the environment "which are relevant or potentially relevant to goal setting and goal attainment" (Dill, 1958:410). That these task environments can be multifaceted and pluralistic is demonstrated by Lionberger's (1964) analysis of the image of the University of Missouri's College of

Agriculture where he depended upon respondents from such diverse groups as farmers, farm organization leaders, agribusiness leaders, bankers, legislators and agricultural journalists.

One variation of the open system appraoch to organizational effectiveness is the system resource perspective. Seashore and Yuchtman (1967:898) define effectiveness of an organization "in terms of its bargaining position, as reflected in the ability of an organization, in either absolute or relative terms, to exploit its environment in the acquisition of scarce and valued resources." The system resource perspective has been criticized on the basis of the limited number of studies of non-profit organizations or public agencies that it has generated. In fact, a number of authors contend that the nature of nonprofit or public service agencies does not allow for the assessment of effectiveness in terms of an organization's ability to exploit its environment in the acquisition of resource or profit. Molnar and Rogers (1976) argue that the perspective can be used in the analysis of public agencies but only if it is turned around to conceptualize effectiveness in terms of the distribution of services rather than in resource allocation. The client system, in this light, could then be visualized as a scarce resource and effectiveness could be measured either in terms of the proportion of the client system that is served by the organization or through the use of the perceptions of the client system in evaluating the services provided by the organization.

It is possible to argue that both the open and the closed system models should be consistent with attempts to analyze organizational effectiveness through the tapping of the perceptions of relevant client systems and that furthermore this approach should be profitable when applied to the Cooperative Extension Service. Thus, if the primary goal of the Extension Service is "the diffusing among the people of the United States useful and practical information relating to agriculture ... and to encourage the application of the same" (Section 1 of

the amended Smith-Lever Act , 1962) and if, following Molnar and Rogers (1976), effectiveness can be measured in terms of the successful distribution of services or the dissemination of information to groups within the relevant environment, then it would seem that an examination of these groups' perceptions would be critical in ascertaining the degree of organizational effectiveness and goal attainment. The present analysis, rather than depending upon an examination of the perceptions of diverse groups in the environment, focuses upon the perceptions of farm operators as a critical client population. Rather than viewing this population as monolithic, its complexity will be documented and will be used as the basis for predictions of differential perception of organizational effectiveness.

In general, studies of organizational effectiveness have neglected the perceptions of individuals being served by these organizations. Katz et al. (1975) state that:

> "There is lip service to the notion of public accountability as feedback, but the feedback more often comes from a technician concerned with some measure of his own, than from any genuine digging into the basic materials of client experience."

The same basic problem seems to be characteristic of sociological studies of extension. There are few comprehensive studies of farm operators' differential perceptions of extension that can be used as a basis for making predictions. However, it seems valid that in an exploratory study, findings from conceptually related areas such as adoption studies and studies of differential extension contact should be able to provide some insight. The general expectation is that those persons who are characterized by similar social and economic traits as early adopters and persons who have frequent contact with extension will perceive extension in a more positive light when compared to late adopters and nonusers of extension programs.

Briefly, there appear to be certain identifiable categories of farm operators

associated with the process of the adoption of innovations and recommended farm practices. In an exhaustive content analysis of over 3,000 studies, Rogers and Shoemaker (1971) conclude that early adopters tend to be younger, have more years of formal education, have higher social status and have larger size and more specialized operations than later adopters. They also conclude that this group of early adopters are higher in social participation, are more cosmopolitan and have greater exposure to mass media. Among other attitudinal variables, this group also tends to be less fatalistic than later adopters.

Adoption-diffusion research has also acted as the springboard for a number of studies which focus upon client contact with extension. A number of variables associated with adoption behavior have also been found to be correlated with extension contact. For example, in a study of a New York farming community, Coleman (1951) found that the operators who were most often reached by extension were more highly educated, had higher social status, had larger sized farming operations, were more likely to be full-time than part-time farmers and had significantly more participation experience. Rogers et al. (1971) cite evidence to support a number of Coleman's findings.

In another study, Straus (1959) studied the characteristics of those who participated in Farm and Home Development intensive extension programs in three states. The general findings indicated that participators were characterized by above average management practices when compared to non-participators and also reemphasized the importance of such variables as education, farm size and social participation. Based upon his findings, Straus suggests that these kinds of studies can be useful in assessing effectiveness by evaluating the differential characteristics of those participating in certain types of programs and using the knowledge of these differences to revise techniques and programs in order to reach those segments of the population not being served.

Based upon this abbreviated review of adoption and extension contact studies, a number of variables stand out as being important in both areas. But aside from the centrality of any single variable or set of variables is the important recognition that the farm population is complex and multifaceted and that the differences observed in this population seem to be related to differential behavior patterns. It is our belief that some of these same variables can be expected to be related to perceived extension effectiveness. Specifically, we hypothesize that farm size, educational level of the operator, the operator's amount of social participation, the operator's frequency of media usage, the operator's degree of cosmopolitanism and the number of family contacts with extension will be positively related to perceived extension effectiveness. In addition, we hypothesize that the age of the operator and the operator's degree of fatalism will be inversely related to perceived extension effectiveness. Finally, tenure, a nominal level variable, is hypothesized to be related to perceived effectiveness but a directional relationship will not be predicted.

Methodology

The data utilized in this study have been extracted from a sample survey of farm operators in the state of Iowa completed in the spring and summer of 1977. The population from which the sample was drawn consisted of all farms in the state of Iowa reporting at least $2500 in gross agricultural sales during 1976. A two-staged area sampling design, representing all Iowa counties, was utilized and yielded 933 completed interviews with primary operators. An additional seven persons were identified as second operators living within the selected households which resulted in information being gathered for a total of 940 farming operations. Separate personal interviews were conducted with both the operator and the spouse, the resulting information covering a wide variety of demographic and background variables, attitudinal and behavioral variables and household and farm

business related characteristics.

The major dependent variable in this analysis is perceived extension effectiveness. Perceived effectiveness is operationally defined as the degree to which the respondent perceives the Cooperative Extension Service as meeting his/her needs. A multi-dimensional index was constructed with the selected items reflecting general statements as to the "goodness of fit" of existing extension programs to individual respondents' operational situations. The items were:

a. I feel that most Extension programs are well suited to my size farming operation.
b. Extension programs of interest to me seem to be scheduled at convenient times.
c. The Extension programs of interest to me are conveniently located.
d. Most Extension programs seem to be at the right technical level for me
e. Extension agents are knowledgeable with most of the problems I have.
f. I have found that sources other than the Extension Service to be more available and suit my needs better.

The dependent variables in this analysis were measured as follows.* Farm size was measured as the total number of acres owned and operated, rented in and operated and managed and operated in 1976. Tenure status[1] was defined as the degree to which the operator owned, rented or managed his farming operation. The nominal categories used were full owners, full renters and combination owner-renters. Age was operationalized by discovering the age of the operator on his/her last birthday. Educational level was defined as the highest grade completed by the operator. Fatalism in this study was determined by degree to which respondents perceive themselves as having control over and understanding of governmental and political affairs which have a bearing on their lives. Social participation was operationally defined as the total number of organizations to which an individual belongs. Cosmopoliteness was defined as the degree to which the respondents' orientations are external to the locality in which he lives and was measured by a three item index. Media usage was opera-

*For a more detailed analysis of these operational measures, contact the senior author at Iowa State University.

tionally defined as the frequency of media usage by the operator in obtaining market information, information about the existence of new products and information concerning the use of new products. Extension contact was determined by the number of separate types of contact that household members had had with Extension personnel or programs during the last year.[2] The possible scores ranged from 0 to 22. The acutal scores range from 0 to 19 with a mean extension contact score of 3.4 contacts per family.

Findings

Table one presents straight frequency distribution for each of the items on extension effectiveness. By examining this table, it appears that Iowa farmers, by and large, hold positive perceptions of extension and that there is a fair amount of agreement that organizational goals, defined in this way, are being met. For items b and c, which both deal with the convenience of scheduling programs, a fairly strong majority hold positive perceptions. Item a, d and e, which speak to the appropriateness of extension programs and the capacity of extension personnel to deal with problems that farmers experience, show again that there is a sizeable majority who rate extension highly. In each of these cases, the non-agree responses are about evenly divided between the disagree, undecided and don't know categories. The latter category, don't know, refers to those individuals who did not know enough about extension to be able to form a response.

Item f in table one is an interesting deviation from the pattern shown for the other responses. In our earlier discussion of organizational effectiveness from a system resource perspective we argued that one way of measuring effectiveness would be to determine the proportional share of any relevant client group that the organization was reaching with its personnel and programs. This statement is based upon the recognition that there is a good deal of competition

Table 1 - Iowa Farmers' Perceptions of Cooperative Extension Effectiveness

	Agree*	Disagree**	Undecided	Don't Know - NR
a) "I feel that most extension program are well suited to my size farming operation."	64.6	11.5	13.3	10.6
b) "Extension programs of interest to me seem to be scheduled at convenient times."	65.4	10.2	11.2	13.2
c) "Extension programs of interest to me are conveniently located."	77.0	5.2	7.3	10.4
d) "Most extension programs seem to be at the right technical level for me."	64.9	10.0	12.8	12.3
e) "Extension agents are knowledgeable with most of the problems I have."	66.6	9.5	11.0	13.0
f) "I have found that sources other than the Extension Service seem to be more available and suit my needs better."	36.0	40.3	13.9	9.8

* For purposes of presenting responses, the strongly agree and agree categories have been combined.

** For purposes of presenting responses, the strongly disagree and disagree categories have been combined.

in the environment for scarce resources (in this case, farmers). For Extension, this means that other organizations such as commercial enterprizes, private management services, the mass media, etc. are all potential competitors for the distribution of their services to this single client group. From the table, it can be seen that a plurality of the respondents disagreed with the statement which means that this group perceives Extension as the organization best equipped and most able to handle their needs. However, a sizeable minority, 36% of the total, felt that sources other than Extension seem to be more available and suit their needs better. One of the problems in assessing organizational effectiveness in this manner, of course, concerns the meaning given to these numbers. For example, is the organization content with the proportion of the potential population being served? Is it a meaningful organizational goal to strive for a particular proportion of the potential population? And finally, what are the characteristics of that segment of the population that is being reached or that demonstrate positive perceptions of organizational effectiveness? From a programmatic point of view, these are crucial questions when an attempt is made to translate these raw numbers into a systematic goal framework.

The next part of the analysis attempts to shed some light on this problem by looking at the relationship between certain farm enterprize, personal and family characteristics and perceived extension effectiveness. Table two reports the zero-order correlations for all variables used in this analysis. Of special interest to us here is column k which reports the correlations and associated significance levels for the relationships between perceived effectiveness and the hypothesized independent variables. Surprisingly, many of the variables that were previously hypothesized to bear a strong relationship with perceived effectiveness do not reach the desired level of significance. For example, degree of cosmopolitanism, age, education and farm size were all found

Table 2 - Pearson correlation coefficients.[1]

	a	b	c	d	e	f	g	h	i	j	k
Extension Contact	1.00	-.1679 N=905 S=.001	.1962 N=930 S=.001	.1765 N=932 S=.001	.3244 N=917 S=.001	.0837 N=915 S=.006	-.0666 N=932 S=.021	.1463 N=923 S=.001	.2203 N=925 S=.001	.1784 N=924 S=.001	.2228 N=767 S=.001
Fatalism		1.00	-.2469 N=903 S=.001	-.0417 N=904 S=.105	-.1573 N=889 S=.001	-.2220 N=899 S=.001	.1046 N=904 S=.001	-.1624 N=899 S=.001	-.1580 N=901 S=.001	-.1599 N=900 S=.001	-.1889 N=753 S=.001
Education			1.00	.1343 N=929 S=.001	.2631 N=914 S=.001	.3023 N=913 S=.001	-.4179 N=929 S=.001	.1286 N=920 S=.001	.2001 N=922 S=.001	.1644 N=921 S=.001	-.0094 N=767 S=.397
Farm Size				1.00	.1329 N=916 S=.001	.0484 N=914 S=.072	-.1561 N=931 S=.001	.0940 N=922 S=.002	.1582 N=924 S=.001	.1328 N=923 S=.001	-.0132 N=766 S=.358

[1] a=Extension contact
b=Fatalism
c=Education
d=Farm size
e=Social participation
f=Cosmopoliteness
g=Age
h=Usage (frequency of media sources used by the operator in obtaining information about the use of new products)
i=Market (frequency of media sources used by the operator in obtaining market information)
j=Exist (frequency of media sources used by the operator in obtaining information about the existence of new products)
k=Perceived effectiveness
N=Number of valid cases
S=Level of significance

Table 2 - (Continued)

a	b	c	d	e	f	g	h	i	j	k
Social Participation				1.00	.0881 N=899 S=.004	-.0684 N=916 S=.019	.2089 N=908 S=.001	.2529 N=910 S=.001	.2232 N=909 S=.001	.1231 N=753 S=.001
Cosmopoliteness					1.00	-.2213 N=914 S-.001	.0756 N=919 S=.019	.0930 N=911 S=.002	.0937 N=930 S=.002	.0102 N=765 S=.389
Age						1.00	-.0435 N=922 S=.093	.0681 N=924 S=.019	-.0841 N=923 S=.005	.0393 N=767 S=.139
Usage							1.00	.6843 N=923 S=.001	.8908 N=923 S=.001	.1589 N=762 S=.001
Market								1.00	.7119 N=924 S=.001	.1371 N=764 S=.001
Exist									1.00	.1678 N=763 S=.001
Perceived Effectiveness										1.00

to bear non-significant relationships with perceived effectiveness. Social participation, the three measures of media usage and fatalism were all significantly related in the hypothesized directions, but the observed relationships were anything but strong. Only extension contact shows a moderately high relationship with the dependent variable.

It might be instructive to look at the same relationships, but in this instance to use extension contact as the dependent variable. It will then be possible to look at the contrast between the relationships observed for perceived effectiveness and for the degree of actual use. It must be stated that the number of cases is considerably higher for the extension contact items and thus the comparison with perceived effectiveness must be made with some caution. Reading across the row labeled extension contact, it can be seen that all of the relationships reach at least the .05 level of significance and that in only two cases, fatalism and media exposure (usage), are the relationships higher for percieved effectiveness. Once again, the relationships observed are not strong in most instances but are all statistically significant and in the hypothesized direction. Again, with a certain amount of caution in drawing conclusions, let us take the farm size variable to draw out some tentative implications of this finding. We observed that farm size was not significantly related to perception of extension effectiveness but that it is at least minimally related to extension contact. This translates into the observation that farm size does not appear to be a particularly important variable in the assessment of effectiveness but there is a small but observable tendency for larger farmers to have a higher degree of contact with extension. The differential would appear to suggest that even though smaller farm operators do not use extension as fully as large operators, that the same relationship does not appear to hold for their perception of extension. Given the relatively high overall rate of positive perceptions reported in table one,

it appears that a large potential audience, quite apart from considerations like farm size, view extension in a positive light and could possibly be considered as clients were more systematic program efforts made to reach them.

In addition to the analysis of the bivariate relationships reported above, a stepwise multiple regression procedure on the relationship between the independent variables and perceived extension effectiveness was also conducted. Using a reduced model which contained extension contact, fatalism, use of media for existence of new products and education (all of which were significant at the .01 level) only about 10 percent of the variance (R^2) in perception of effectiveness was explained. Adding the other variables to the model did not significantly increase the amount of explained variance. In addition to the fact that this particular set of independent variables does not appear to be strongly related to perceived effectiveness, another possible reason for the small R^2 is that, as reported in table one, there is a relatively low amount of variation in the dependent variable.

Up to ths point, the analysis has been based upon those persons who responded to the extension perception items. As mentioned when discussing table one, there is also a group, usually consisting of about 10 percent of the sample, who because of inadequate knowledge of extension could offer no opinions to one or more of the effectiveness items. It might be noted that in the process of interviewing, the no response category was not listed as a possible response mode but had to be volunteered by the respondent.

From an effectiveness assessment perspective, it seems as if this group would be a crucial one to analyze since they appear to lack the experiential foundation necessary to even form and/or tender an opinion.[3] The decision was made to construct a social profile of this group and to compare it to the groups who agreed and to those who disagreed, taking each of the

effectiveness items separately. The undecided category was dropped from this part of the analysis. Rather than using all of the dependent variables to construct this social profile, four key variables, age, education, farm size, and social participation were selected to form the basis for the comparison. One way analysis of variance was utilized to assess the differences between those who agreed with the items (group 1), those who disagreed (group 2) and the no response group (group 3). Table 3 reports the mean age, education, farm size and rate of social participation for the three groups for each of the six effectiveness items. As expected as a result of the low bivariate relationships reported earlier, group 1 (agrees) and group 2 (disagrees) do not significantly differ from one another, except in two cases (item b for age and education). When comparing the means of the two groups, there is no consistent pattern, with group 1 being higher on certain variable-item relationships and group 2 higher on others.

However, when group 3 (no response) is brought into the comparison, a fairly consistent pattern occurs in all items and across all variables. In all but four cases, group 3 is significantly different from both groups 1 and 2. In the other four cases, group 3 is significantly different from group 1 only. In a comparison of the means there is also a consistent pattern. For all items, persons in group 3 are regularly older, less educated, have smaller farm sizes and participate less than those in groups 1 and 2. Thus, while differential perception of extension effectiveness does not appear to be strongly related to the variables advanced in this analysis, the non respondents show a clear and consistent pattern of difference with respect to age, education, farm size and social participation measures.

Table 3 - Analysis of Variance - Comparison of Means for Groups who Agree, Disagree and Do Not Respond to Extension Effectiveness Items

	Age-Years (Means)	Education-Years (Means)	Farm Size-Acres (Means)	Participation-#'s (Means)
a) I feel that most Extension programs are well suited to my size farming operation	Group 1 47.09 Group 2 48.03 Group 3 51.47*	Group 1 11.52 Group 2 11.71 Group 3 10.19**	Group 1 335.04 Group 2 332.29 Group 3 260.36**	Group 1 2.55 Group 2 2.32 Group 3 1.65**
b) Extension programs of interest to me seem to be scheduled at convenient times	Group 1 47.73*** Group 2 43.25 Group 3 51.83**	Group 1 11.48*** Group 2 12.07 Group 3 10.23**	Group 1 343.11 Group 2 334.53 Group 3 242.61**	Group 1 2.57 Group 2 2.46 Group 3 1.68**
c) The Extension programs of interest to me are conveniently located	Group 1 47.17 Group 2 48.07 Group 3 52.85*	Group 1 11.47 Group 2 11.71 Group 3 10.06**	Group 1 332.46 Group 2 367.32 Group 3 254.06**	Group 1 2.51 Group 2 2.52 Group 3 1.65**
d) Most Extension programs seem to be at the right technical level for me	Group 1 46.85 Group 2 45.28 Group 3 53.54**	Group 1 11.58 Group 2 11.49 Group 3 10.23**	Group 1 338.32 Group 2 339.60 Group 3 262.58*	Group 1 2.59 Group 2 2.30 Group 3 1.71*
e) Extension agents are knowledeable with most of the problems that I have	Group 1 47.16 Group 2 45.22 Group 3 52.77**	Group 1 11.51 Group 2 12.07 Group 3 10.08**	Group 1 327.42 Group 2 385.01 Group 3 254.75**	Group 1 2.53 Group 2 2.64 Group 3 1.73**
f) I have found that sources other than Extension seem to be more available and suit my needs better.	Group 1 46.04 Group 2 47.86 Group 3 53.68**	Group 1 11.69 Group 2 11.40 Group 3 9.93**	Group 1 333.27 Group 2 326.93 Group 3 246.18**	Group 1 2.46 Group 2 2.59 Group 3 1.63**

* Group 3 significantly different from group 1 at the .05 level
** Group 3 significantly different from group 1 and group 2 at the .05 level
*** Group 1 significantly different from group 2

Summary and Conclusions

This study has reported the results of an analysis of a sample of Iowa farmers on the question of perceived extension effectiveness. Two models of organizational effectiveness were advanced and were suggested as being consistent with efforts to use the perceptions of actual and/or potential client groups as a method for determining effectiveness. Based upon an analysis of the perceptions, it became clear that extension was not suffering an "image crises" in that there was a rather consistent positive rating given across all items. To determine the relationship between selected demographic, family and farm enterprize characteristics and perceived effectiveness Pearson correlation coefficients were computed. While several variables such as fatalism, social participation, media usage and extension contact were related to perceived effectiveness at a statistically significant level, the magnitude of the associations were not large, especially when considering the size of the sample. Other key variables, such as age, education, farm size, and cosmpolitanism were found not to be related to perceived effectiveness. It should be recalled that the general hypotheses were formulated on the basis of past findings in studies of adoption and extension contact and the fact that the hypothesized relationships did not hold may be significant in assessing the difference between the behavioral dimension of extension contact and the attitudinal dimensions of perceived extension effectiveness. In fact, data from our own study tends to demonstrate that the independent variables selected were more consistently related to extension contact than to perceived effectiveness, although even these relationships were not particularly strong. A stepwise multiple regression procedure was also computed for perceived effectiveness, with the reduced model containing extension contact, fatalism, media usage and education, accounting for only about 10% of the variance in perceived effectiveness.

The finding of little or no relationship, however, would seem to have important implications for extension in the sense that there does not appear to be a clearly identifiable group, at least based upon the variables in this analysis, that harbors a collective negative perception of extension effectiveness. In reviewing the results of the analysis of variance, for example, there was no consistent pattern of difference between the group who agreed with the extension effectiveness items and those who disagreed. Of equal importance is the finding of significant differences between both of these groups and the group of non respondents. Using the differential means of the four variables of age, education, farm size and rate of social participation a fairly clear identification of this group's characteristics was possible. The analysis of the non respondents, of course, falls beyond the type of effectiveness assessment strategy discussed here in that it is not based upon differential perceptions, which for this group were not given, but rather is based upon the assumption that this group did not even have an adequate experiential background to be able to form opinions which could be used for assessment.

This study reports one possible strategy for organizational effectiveness assessment based upon actual and potential client groups' perceptions. Based upon the findings of this study, it seems that this is a profitable area for further applied sociological research. Additional studies should be conducted to determine whether the findings reported here our generalizable to other populations and to discover whether other variables may be important in the explanation of perceived extension effectiveness. In addition, studies that more specifically focus on the interaction of the behavioral dimension (extension contact) and the attitudinal dimension (perception of effectiveness) would seem to be important. It is clear from the present analysis that the image of extension is not a large problem and that a translation of this attitudinal

dimension into consistent behavioral contacts with the client population would be a critical next step in the realization of its stated goals.

FOOTNOTES

1. Tenure, as a nominal variable, was tested for its relationship to extension perception as a preliminary step. A Chi Square test revealed that it was not significantly related to perception, so it was dropped from further consideration in this study.
2. It should be pointed out that this measure only refers to the different types of contact with extension and does not purport to measure the actual number of contacts made during the year.
3. The actual difference in extension contact between the three groups is summarized in table four, using the responses from each extension perception item. In each case, group 3 (non-response) had a significantly lower extension contact score than did group 1 (those who expressed agreement with the items) and group 2 (those who expressed disagreement with the items). In three cases, group 2 and group 1 had significantly different extension contact ratings. It should be reemphasized that these measures do not refer to total number of contacts but rather to the number of different types of contact that the respondent and his family had had during the last year.

Table 4 - Analysis of Variables - Comparison of Extension Contact (Means) for Groups who Agree, Disagree and Do Not Respond to Extension Effectiveness Items

	Extension Contact (Means)	
a) I feel that most Extension programs are well suited to my size farming operation	Group 1	3.13
	Group 2	2.31***
	Group 3	0.71**
b) Extension programs of interest to me seem to be scheduled at convenient times	Group 1	3.09
	Group 2	2.88
	Group 3	0.77**
c) The Extension programs of interest to be at the right technical level for me	Group 1	2.98
	Group 2	2.54
	Group 3	0.77**
d) Most Extension programs seem to be at the right technical level for me	Group 1	3.17
	Group 2	2.73
	Group 3	0.78**
e) Extension agents are knowledgeable with most of the problems that I have	Group 1	3.12
	Group 2	2.31***
	Group 3	.90**
f) I have found that sources other than Extension seem to be more available and suit my need better	Group 1	2.46
	Group 2	3.23***
	Group 3	0.89**

* Group 3 significantly different from group 1 at the .05 level

** Group 3 significantly different from group 1 and group 2 at the .05 level

*** Group 1 significantly different from group 2

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